APPENDIX

SEQ ID NO:1
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SEQ ID NO:2 (cecropin pro)
GCG CCA GAG CCG AAA

SEQ ID NO:3 (cecropin pro extended)
GCG CCA GAG CCG AAA TGG AAA GTC TTC AAG

SEQ ID NO:4 (cecropin prepro)
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SEQ ID NO:5 (cecropin prepro extended)
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SEQ ID NO:6 (pTnMCS)

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  15   GGCGAAACCC GACAGGACTA TAAAGATACC AGGCGTTTCC CCCTGGAAGC 6050
       TCCCTCGTGC GCTCTCCTGT TCCGACCCTG CCGCTTACCG GATACCTGTC 6100
       CGCCTTTCTC CCTTCGGGAA GCGTGGCGCT TTCTCATAGC TCACGCTGTA 6150
       GGTATCTCAG TTCGGTGTAG GTCGTTCGCT CCAAGCTGGG CTGTGTGCAC 6200
       GAACCCCCCG TTCAGCCCGA CCGCTGCGCC TTATCCGGTA ACTATCGTCT 6250
  20   TGAGTCCAAC CCGGTAAGAC ACGACTTATC GCCACTGGCA GCAGCCACTG 6300
       GTAACAGGAT TAGCAGAGCG AGGTATGTAG GCGGTGCTAC AGAGTTCTTG 6350
       AAGTGGTGGC CTAACTACGG CTACACTAGA AGGACAGTAT TTGGTATCTG 6400
       CGCTCTGCTG AAGCCAGTTA CCTTCGGAAA AAGAGTTGGT AGCTCTTGAT 6450
       CCGGCAAACA AACCACCGCT GGTAGCGGTG GTTTTTTTGT TTGCAAGCAG 6500
  25   CAGATTACGC GCAGAAAAAA AGGATCTCAA GAAGATCCTT TGATCTTTTC 6550
       TACGGGGTCT GACGCTCAGT GGAACGAAAA CTCACGTTAA GGGATTTTGG 6600
       TCATGAGATT ATCAAAAAGG ATCTTCACCT AGATCCTTTT AAATTAAAAA 6650
       TGAAGTTTTA AATCAATCTA AAGTATATAT GAGTAAACTT GGTCTGACAG 6700
       TTACCAATGC TTAATCAGTG AGGCACCTAT CTCAGCGATC TGTCTATTTC 6750
  30   GTTCATCCAT AGTTGCCTGA CTCCCCGTCG TGTAGATAAC TACGATACGG 6800
       GAGGGCTTAC CATCTGGCCC CAGTGCTGCA ATGATACCGC GAGACCCACG 6850
       CTCACCGGCT CCAGATTTAT CAGCAATAAA CCAGCCAGCC GGAAGGGCCG 6900
       AGCGCAGAAG TGGTCCTGCA ACTTTATCCG CCTCCATCCA GTCTATTAAT 6950
       TGTTGCCGGG AAGCTAGAGT AAGTAGTTCG CCAGTTAATA GTTTGCGCAA 7000
  35   CGTTGTTGCC ATTGCTACAG GCATCGTGGT GTCACGCTCG TCGTTTGGTA 7050
       TGGCTTCATT CAGCTCCGGT TCCCAACGAT CAAGGCGAGT TACATGATCC 7100
       CCCATGTTGT GCAAAAAAGC GGTTAGCTCC TTCGGTCCTC CGATCGTTGT 7150
       CAGAAGTAAG TTGGCCGCAG TGTTATCACT CATGGTTATG GCAGCACTGC 7200
       ATAATTCTCT TACTGTCATG CCATCCGTAA GATGCTTTTC TGTGACTGGT 7250
  40   GAGTACTCAA CCAAGTCATT CTGAGAATAG TGTATGCGGC GACCGAGTTG 7300
       CTCTTGCCCG GCGTCAATAC GGGATAATAC CGCGCCACAT AGCAGAACTT 7350
       TAAAAGTGCT CATCATTGGA AAACGTTCTT CGGGGCGAAA ACTCTCAAGG 7400
       ATCTTACCGC TGTTGAGATC CAGTTCGATG TAACCCACTC GTGCACCCAA 7450
       CTGATCTTCA GCATCTTTTA CTTTCACCAG CGTTTCTGGG TGAGCAAAAA 7500
  45   CAGGAAGGCA AAATGCCGCA AAAAAGGGAA TAAGGGCGAC ACGGAAATGT 7550
       TGAATACTCA TACTCTTCCT TTTTCAATAT TATTGAAGCA TTTATCAGGG 7600
       TTATTGTCTC ATGAGCGGAT ACATATTTGA ATGTATTTAG AAAAATAAAC 7650
       AAATAGGGGT TCCGCGCACA TTTCCCCGAA AAGTGCCAC         7689
```

  50   SEQ ID NO:8 (modified Kozak sequence)
       ACCATG

       SEQ ID NO:9 (a Kozak sequence)
       ACCATGG
  55
       SEQ ID NO:10 (a Kozak sequence)
       ACCATGT

       SEQ ID NO:11 (a Kozak sequence)
  60   AAGATGT

SEQ ID NO:12 (a Kozak sequence)
ACGATGA

5　　SEQ ID NO:13 (a Kozak sequence)
AAGATGG

SEQ ID NO:14 (a Kozak sequence)
GACATGA

10　SEQ ID NO:15 (a Kozak sequence)
ACCATGA

SEQ ID NO:16 (a Kozak sequence)
ACCATGT
15
SEQ ID NO:17 (conalbumin polyA)
tctgccattg ctgcttcctc tgcccttcct cgtcactctg aatgtggctt cttcgctact
gccacagcaa gaaataaaat ctcaacatct aaatgggttt cctgaggttt ttcaagagtc
gttaagcaca ttccttcccc agcacccctt gctgcaggcc agtgccaggc accaacttgg
20　ctactgctgc ccatgagaga aatccagttc aatattttcc aaagcaaaat ggattacata
tgccctagat cctgattaac aggcgtttgt attatctagt gctttcgctt cacccagatt
atcccattgc ctccc

SEQ ID NO:18 (synthetic polyA)
25　GGCGCCTGGATCCAGATCACTTCTGGCTAATAAAAGATCAGAGCTCTAGAGATCTGTGTGTTGGTTTTT
TGTGGATCTGCTGTGCCTTCTAGTTGCCAGCCATCTGTTGTTTGCCCCTCCCCCGTGCCTTCCTTGACC
CTGGAAGGTGCCACTCCCACTGTCCTTTCCTAATAAAATGAGGAAATTGCATCGCATTGTCTGAGTAGG
TGTCATTCTATTCTGGGGGGTGGGGTGGGGCAGCACAGCAAGGGGGAGGATTGGGAAGACAATAGCAGG
30　CATGCTGGGGATGCGGTGGGCTCTATGGGTACCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTC
TCTCGGTACCTCTCTC

SEQ ID NO:19 (avian optimized polyA)
ggggatcgc tctagagcga tccgggatct cgggaaaagc gttggtgacc aaaggtgcct
tttatcatca cttttaaaat aaaaaacaat tactcagtgc ctgttataag cagcaattaa
35　ttatgattga tgcctacatc acaacaaaaa ctgatttaac aaatggttgg tctgccttag
aaagtatatt tgaacattat cttgattata ttattgataa taataaaaac cttatcccta
tccaagaagt gatgcctatc attggttgga atgaacttga aaaaaattag ccttgaatac
attactggta aggtaaacgc cattgtcagc aaattgatcc aagagaacca a

40　SEQ ID NO:20
(vitellogenin promoter)
TGAATGTGTT CTTGTGTTAT CAATATAAAT CACAGTTAGT GATGAAGTTG GCTGCAAGCC
TGCATCAGTT CAGCTACTTG GCTGCATTTT GTATTTGGTT CTGTAGGAAA TGCAAAAGGT
TCTAGGCTGA CCTGCACTTC TATCCCTCTT GCCTTACTGC TGAGAATCTC TGCAGGTTTT
45　AATTGTTCAC ATTTTGCTCC CATTTACTTT GGAAGATAAA ATATTTACAG AATGCTTATG
AAACCTTTGT TCATTTAAAA ATATTCCTGG TCAGCGTGAC CGGAGCTGAA AGAACACATT
GATCCCGTGA TTTCAATAAA TACATATGTT CCATATATTG TTTCTCAGTA GCCTCTTAAA
TCATGTGCGT TGGTGCACAT ATGAATACAT GAATAGCAAA GGTTTATCTG GATTACGCTC
TGGCCTGCAG GAATGGCCAT AAACCAAAGC TGAGGGAAGA GGGAGAGTAT AGTCAATGTA
50　GATTATACTG ATTGCTGATT GGGTTATTAT CAGCTAGATA ACAACTTGGG TCAGGTGCCA
GGTCAACATA ACCTGGGCAA AACCAGTCTC ATCTGTGGCA GGACCATGTA CCAGCAGCCA
GCCGTGACCC AATCTAGGAA AGCAAGTAGC ACATCAATTT TAAATTTATT GTAAATGCCG
TAGTAGAAGT GTTTTACTGT GATACATTGA AACTTCTGGT CAATCAGAAA AAGGTTTTTT
ATCAGAGATG CCAAGGTATT ATTTGATTTT CTTTATTCGC CGTGAAGAGA ATTTATGATT
55　GCAAAAGAG GAGTGTTTAC ATAAACTGAT AAAAAACTTG AGGAATTCAG CAGAAAACAG
CCACGTGTTC CTGAACATTC TTCCATAAAA GTCTCACCAT GCCTGGCAGA GCCCTATTCA
CCTTCGCT

SEQ ID NO:21 (fragment of ovalbumin promoter - chicken)
60　GAGGTCAGAAT GGTTTCTTTA CTGTTTGTCA ATTCTATTAT TTCAATACAG
AACAATAGCT TCTATAACTG AAATATATTT GCTATTGTAT ATTATGATTG

```
TCCCTCGAAC CATGAACACT CCTCCAGCTG AATTTCACAA TTCCTCTGTC
ATCTGCCAGG CCATTAAGTT ATTCATGGAA GATCTTTGAG GAACACTGCA
AGTTCATATC ATAAACACAT TTGAAATTGA GTATTGTTTT GCATTGTATG
GAGCTATGTT TTGCTGTATC CTCAGAAAAA AAGTTTGTTA TAAAGCATTC
ACACCCATAA AAAGATAGAT TTAAATATTC CAGCTATAGG AAAGAAAGTG
CGTCTGCTCT TCACTCTAGT CTCAGTTGGC TCCTTCACAT GCATGCTTCT
TTATTTCTCC TATTTTGTCA AGAAAATAAT AGGTCACGTC TTGTTCTCAC
TTATGTCCTG CCTAGCATGG CTCAGATGCA CGTTGTAGAT ACAAGAAGGA
TCAAATGAAA CAGACTTCTG GTCTGTTACT ACAACCATAG TAATAAGCAC
ACTAACTAAT AATTGCTAAT TATGTTTTCC ATCTCTAAGG TTCCCACATT
TTTCTGTTTT CTTAAAGATC CCATTATCTG GTTGTAACTG AAGCTCAATG
GAACATGAGC AATATTTCCC AGTCTTCTCT CCCATCCAAC AGTCCTGATG
GATTAGCAGA ACAGGCAGAA AACACATTGT TACCCAGAAT TAAAAACTAA
TATTTGCTCT CCATTCAATC CAAAATGGAC CTATTGAAAC TAAAATCTAA
CCCAATCCCA TTAAATGATT TCTATGGCGT CAAAGGTCAA ACTTCTGAAG
GGAACCTGTG GGTGGGTCAC AATTCAGGCT ATATATTCCC CAGGGCTCAG
```

SEQ ID NO:22 (chicken ovalbumin ehancer)
```
ccgggctgca gaaaaatgcc aggtggacta tgaactcaca tccaaaggag
cttgacctga tacctgattt tcttcaaact ggggaaacaa cacaatccca caaaacagct
cagagagaaa ccatcactga tggctacagc accaaggtat gcaatggcaa tccattcgac
attcatctgt gacctgagca aaatgattta tctctccatg aatggttgct tctttccctc
atgaaaaggc aatttccaca ctcacaatat gcaacaaaga caaacagaga acaattaatg
tgctccttcc taatgtcaaa attgtagtgg caaagaggag aacaaaatct caagttctga
gtaggtttta gtgattggat aagaggcttt gacctgtgag ctcacctgga cttcatatcc
ttttggataa aaagtgcttt tataactttc aggtctccga gtctttattc atgagactgt
tggtttaggg acagacccac aatgaaatgc ctggcatagg aaagggcagc agagccttag
ctgacctttt cttgggacaa gcattgtcaa acaatgtgtg acaaaactat ttgtactgct
ttgcacagct gtgctgggca gggcaatcca ttgccaccta tcccaggtaa ccttccaact
gcaagaagat tgttgcttac tctctctaga
```

SEQ ID NO:23 (5' untranslated region)
GTGGATCAACATACAGCTAGAAAGCTGTATTGCCTTTAGCACTCAAGCTCAAAAGACAACTCAGAGTTC
ACC

SEQ ID NO:24 (putative cap site)
ACATACAGCTAG AAAGCTGTAT TGCCTTTAGC ACTCAAGCTC AAAAGACAAC TCAGAGTTCA

SEQ ID NO:25 (Chicken Ovalbumin Signal Sequence)
```
ATG GGCTCCATCG GCGCAGCAAG CATGGAATTT TGTTTTGATG TATTCAAGGA GCTCAAAGTC
CACCATGCCA ATGAGAACAT CTTCTACTGC CCCATTGCCA TCATGTCAGC TCTAGCCATG
GTATACCTGG GTGCAAAAGA CAGCACCAGG ACACAGATAA ATAAGGTTGT TCGCTTTGAT
AAACTTCCAG GATTCGGAGA CAGTATTGAA GCTCAGTGTG GCACATCTGT AAACGTTCAC
TCTTCACTTA GAGACATCCT CAACCAAATC ACCAAACCAA ATGATGTTTA TTCGTTCAGC
CTTGCCAGTA GACTTTATGC TGAAGAGAGA TACCCAATCC TGCCAGAATA CTTGCAGTGT
GTGAAGGAAC TGTATAGAGG AGGCTTGGAA CCTATCAACT TTCAAACAGC TGCAGATCAA
GCCAGAGAGC TCATCAATTC CTGGGTAGAA AGTCAGACAA ATGGAATTAT CAGAAATGTC
CTTCAGCCAA GCTCCGTGGA TTCTCAAACT GCAATGGTTC TGGTTAATGC CATTGTCTTC
AAAGGACTGT GGGAAGAACA ATTTAAGGAT GAAGACACAC AAGCAATGCC TTTCAGAGTG
ACTGAGCAAG AAAGCAAACC TGTGCAGATG ATGTACCAGA TTGGTTTATT TAGAGTGGCA
TCAATGGCTT CTGAGAAAAT GAAGATCCTG GAGCTTCCAT TTGCCAGTGG GACAATGAGC
ATGTTGGTGC TGTTGCCTGA TGAAGTCTCA GGCCTTGAGC AGCTTGAGAG TATAATCAAC
TTTGAAAAAC TGACTGAATG GACCAGTTCT AATGTTATGG AAGAGAGGAA GATCAAAGTG
TACTTACCTC GCATGAAGAT GGAGGAAAAA TACAACCTCA CATCTGTCTT AATGGCTATG
GGCATTACTG ACGTGTTTAG CTCTTCAGCC AATCTGTCTG GCATCTCCTC AGCAGAGAGC
CTGAAGATAT CTCAAGCTGT CCATGCAGCA CATGCAGAAA TCAATGAAGC AGGCAGAGAG
GTGGTAGGGT CAGCAGAGGC TGGAGTGGAT GCTGCAAGCG TCTCTGAAGA ATTTAGGGCT
GACCATCCAT TCCTCTTCTG TATCAAGCAC ATCGCAACCA ACGCCGTTCT CTTCTTTGGC
AGATGTGTTT CCCCT
```

SEQ ID NO:26 (Chicken Ovalbumin Signal Sequence - shortened 50bp)

ATG GGCTCCATCG GCGCAGCAAG CATGGAATTT TGTTTTGATG TATTCAAGGA

SEQ ID NO:27 (Chicken Ovalbumin Signal Sequence - shortened 100bp)
ATG GGCTCCATCG GCGCAGCAAG CATGGAATTT TGTTTTGATG TATTCAAGGA GCTCAAAGTC
CACCATGCCA ATGAGAACAT CTTCTACTGC CCCATTGCCA

SEQ ID NO:28 (vitellogenin targeting sequence)
ATGAGGGGGATCATACTGGCATTAGTGCTCACCCTTGTAGGCAGCCAGAAGTTTGACATTGGT

SEQ ID NO:29 (pro-insulin sequence)
TTTGTGAACCAACACCTGTGCGGCTCACACCTGGTGGAAGCTCTCTACCTAGTGTGCGGGGAACGAGGC
TTCTTCTACACACCCAAGACCCGCCGGGAGGCAGAGGACCTGCAGGTGGGGCAGGTGGAGCTGGGCGGG
GGCCCTGGTGCAGGCAGCCTGCAGCCCTTGGCCCTGGAGGGGTCCCTGCAGAAGCGTGGCATTGTGGAA
CAATGCTGTACCAGCATCTGCTCCCTCTACCAGCTGGAGAACTCTGCAACTAG

SEQ ID NO:30 (p146 protein)
KYKKALKKLAKLL

SEQ ID NO:31 (p146 coding sequence)
AAATACAAAAAAGCACTGAAAAAACTGGCAAAACTGCTG

SEQ ID NO:32 (spacer)
$(GPGG)_x$

SEQ ID NO:33 (spacer)
GPGGGPGGGPGG

SEQ ID NO:34 (spacer)
GGGGSGGGGSGGGGS

SEQ ID NO:35 (spacer)
GGGGSGGGGSGGGGSGGGGS

SEQ ID NO:36 (repeat domain in TAG spacer sequence)
Pro Ala Asp Asp Ala

SEQ ID NO:37 (TAG spacer sequence)
Pro Ala Asp Asp Ala Pro Ala Asp Asp Ala Pro Ala Asp Asp Ala Pro Ala
Asp Asp Ala Pro Ala Asp Asp Ala Pro Ala Asp Asp

SEQ ID NO:38 (gp41 epitope)
Ala Thr Thr Cys Ile Leu Lys Gly Ser Cys Gly Trp Ile Gly Leu Leu

SEQ ID NO:39 (polynucleotide sequence encoding gp41 epitope)
Pro Ala Asp Asp Ala Pro Ala Asp Asp Ala Thr Thr Cys Ile Leu Lys Gly
Ser Cys Gly Trp Ile Gly Leu Leu Asp Asp Asp Asp Lys

SEQ ID NO:40 (enterokinase cleavage site)
DDDDK

SEQ ID NO:41 (TAG sequence)
Pro Ala Asp Asp Ala Pro Ala Asp Asp Ala Pro Ala Asp Asp Ala Pro Ala
Asp Asp Ala Pro Ala Asp Asp Ala Pro Ala Asp Asp Ala Thr Thr Cys Ile
Leu Lys Gly Ser Cys Gly Trp Ile Gly Leu Leu Asp Asp Asp Asp Lys

SEQ ID NO:42 (altered transposase Hef forward primer)
ATCTCGAGACCATGTGTGAACTTGATATTTTACATGATTCTCTTTACC

SEQ ID NO:43 (altered transposase Her reverse primer)
GATTGATCATTATCATAATTTCCCCAAAGCGTAACC

SEQ ID NO: 44 GnRH:Phor 11
Met-Glu-His-Trp-Ser-Tyr-Gly-Leu-Arg-Pro-Gly-Lys-Phe-Ala-Ile-Cys-Lys-
Lys-Phe-Ala-Ile-Cys-OCH

SEQ ID NO: 45 GNRH/Phor14
EHWSYGLRPGKFAKFAKKFAKFAK

SEQ ID NO: 46 Phor14::Beta-LH Sequence
MKFAKFAKKFAKFAKSYAVALSCQCALCRR

SEQ ID NO:47 (pTnMCS (CMV-prepro-HCPro-ProLys-LC-CPA))
```
   1 ctgacgcgcc ctgtagcggc gcattaagcg cggcgggtgt ggtggttacg cgcagcgtga
  61 ccgctacact tgccagcgcc ctagcgcccg ctcctttcgc tttcttccct tcctttctcg
 121 ccacgttcgc cggcatcaga ttggctattg gccattgcat acgttgtatc catatcataa
 181 tatgtacatt tatattggct catgtccaac attaccgcca tgttgacatt gattattgac
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 301 cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc ccgcccatt
 361 gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc attgacgtca
 421 atgggtggag tatttacggt aaactgccca cttggcagta catcaagtgt atcatatgcc
 481 aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt atgcccagta
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 961 actctatagg cacacccctt tggctcttat gcatgctata ctgttttggg cttggggcct
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1321 cgaatctcgg gtacgtgttc cggacatggg ctcttctccg gtagcggcgg agcttccaca
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2821 cacttccagg ctaacacagt cagaaatcga aacgtactct caacagttcg cttaggcatg
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